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BY

GEORGE M. GOULD, M.D.

[Reprinted from THE POLYCLINIC, October, 1888.]

A PECULIAR CASE OF HERPES ZOSTER OPHTHALMICUS, SEROUS IRITIS, OR "OPHTHALMO-NEURITIS."

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On July 6th, I was called to see F. P. M. ———, who, it was said, was suffering with "severe inflammation" of the left eye. His complaint was of a persistent boring pain behind and above the eye, and extending thence to the vertex of the head. Questioned as to the history and cause of the trouble, he said that on June 24th he became very much heated carrying water in the sunshine, and that immediately thereafter he rode in a railway car several miles to the city, sitting beside an open window, the wind blowing strong and cool upon the side of the face affected. The next day his eye became intensely congested and red, and there was pain, lachrymation and photophobia. From this time till July 6th, various home remedies were uselessly tried, the eye and head growing steadily more painful, and the conjunctiva continuing very much inflamed. I found the eye in the following condition: The lids and adjacent parts were not swollen; the whole conjunctiva was intensely congested and of a bright scarlet hue; there was no pannus, and the cornea and anterior chamber were clear. The iris to all appearance was normal or but slightly hyperæmic. The pupil was somewhat contracted, but responded to light and darkness fairly well. There was certainly no pronounced iritis, the delicate striation and reflex of the fibres being clear and perfect. There was such great photophobia and lachrymation that a perfect ophthalmoscopic examination was not possible, but under cocaine I was convinced that the details of the fundus were not visible; they seemed obscured by a cloudiness and haze, greatest at the papilla and growing less toward the periphery where the retinal reflex and small vessels seemed normal. Vision was of course impaired, letters the size of J. 18 being legible with difficulty. I failed to elicit any history of a blow or injury, and syphilis was I think truthfully denied.* The patient had been a healthy man all his life, without vicious habits or constitutional disease of any kind.

What was to be the diagnosis? The absence of any symptoms of iritis, either due to the exposure to cold or to any injury, led me to believe there must have been some history of traumatism concealed or unknown. I endeavored to ascertain if some sliver of metal (he was a worker upon brass tubing) may not have penetrated the globe or orbit without leaving any trace. The second week I asked my friend, Dr. Oliver, to examine the eye, and he judged there must have been some traumatic injury. Astringent and antiseptic collyria kept the conjunctiva clean and without secretion, but did not in the least lessen its injection. I found several dacryoliths in the upper palpebral conjunctiva and removed them, but neither this nor the most energetic antiphlogistic measures, with paralysis of the

* The second week of the disease I tried antisyphilitic treatment for three days, but with such aggravation of all the symptoms of the malady that I hastened to renounce it.

accommodation, gave any relief. Two ounces of blood were drawn from the temple by leeches, and this was repeated the second day afterward; hot fomentations, alternated twice on the following days with cold, slight purgation, etc., etc., left me and my patient at the end of three weeks just where we were at the beginning. Occasional slight increases of the intra-ocular tension were promptly reduced by eserine instillations, the iris always reacting to either this or atropine. The pain behind and above the globe continued, and the patient's nervous system was growing unable to withstand the loss of sleep. Morphine, chloral and bromide, hyoscine, and other hypnotics were successively tried and in heroic doses, but were powerless to give any sleep. There were occasional hours of troubled dozing in the daytime.

At the end of three weeks I again asked Dr. Oliver to look at the eye, and we then discovered nothing new except a few tiny flecks upon Descemet's membrane, which led Dr. Oliver to diagnosticate a serous iritis (uveitis), and suggest pilocarpine as of possible advantage. To this I added antipyrine and quinine. The change was almost magical. From the second day after instituting this treatment the patient was almost entirely relieved of pain, and was sleeping soundly at night. Convalescence was slow, and marked by this peculiarity: within a week after the above treatment and crisis, and when the eye had nearly recovered its normal appearance, the iris began showing signs of inflammation, until finally a decided iritis was apparent. This, however, disappeared under the routine treatment. The iritis was attended by no pain or subjective symptoms, and the conjunctiva continued uninterruptedly to clear, while the details of the fundus also became more and more distinct, the papilla and its immediate vicinity still remaining somewhat ill-defined or cloudy.

The man was to return to work on August 19th with the conjunctiva and media clear, a responsive and normal iris, a somewhat hazy papilla, and slightly sub-normal visual acuteness.

I am describing the case and the troubles of diagnosis as they arose, and, therefore, interject at this point a few words written at this time.

In endeavoring to specialize more accurately the exact nature of the trouble, I have tentatively adopted the hypothesis indicated by the title ophthalmo-neuritis, or peripheral neuritis of the ophthalmic branch of the fifth nerve, and wish to call attention to the following reasons that have led me to do so:—

At my first examination of the patient I carefully examined the side of the face exposed to the draught of cold air in the car, to see if there were any symptoms of facial paralysis, but found both motion and sensation were normal. But I then learned that there had been for two or three days after the car-ride, considerable stiffness and tenderness at the angle of the jaw, with some shooting pains out upon the face from this point.* At this time it had flashed upon my mind that the ocular trouble was a phenomenon precisely analogous in essential cause and nature to that of paralysis of the seventh by exposure to cold; but since I found nothing of this in half a dozen or more of the best treatises on the eye, I allowed the thought to partially drop, though never entirely giving it up.

I now return to this view, and believe that the affection was essentially a peripheral neuritis of the ophthalmic branch of the fifth, the bulbar and retrobulbar portions of the optic nerve becoming implicated in the inflammatory process, and iritis supervening at a later date and merely secondarily.

The designation of the disease as an iritis, I think a misnomer, since I cannot believe

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* In riding in a car by an open window one rests his hand naturally on the side of the face, and thus protects the seventh nerve. To this, perhaps, is due the escape from facial paralysis in this case.

that the primary or chief lesion was in the iris. In the early and most painful periods of the affection the iris was, if at all, only slightly hyperæmic, and a pronounced or plastic iritis appeared only after the crisis of the disease had passed, and even then it was not severe or painful. Moreover, almost every writer in discussing that peculiar, rare and somewhat mysterious disease, serous iritis, admits, to start out with, that the inflammation is more extensive than the iris, that it is an irido-choroiditis, an uveitis, or even a true panophthalmitis. Thus Ulrich,* in discussing the nutrition of the eye, says, "All are agreed that iritis serosa is not only an iritis. The case of Knies has of late furnished anatomical proof that the whole eye shared in the inflammatory process, so that instead of an iritis serosa it were more properly designated as a panophthalmitis serosa. * * * Only after the disease has progressed for a considerable time does a true iritis appear with synechiæ, and only at a still later day begin the formation of deposits upon the membrane of Descemet." DeWecker, in exposing his theory that serous iritis is primarily a lymphangitis of the anterior part of the globe, says† that the term serous iritis must soon disappear; and he adds, "Probably every anterior lymphangitis that at first preferentially seizes upon the pericorneal trabecular tissue, is immediately extended to the ciliary body, and should therefore be called a serous irido-choroiditis, or general lymphangitis of the eye." But the famous case of Knies, the unique post-mortem proof of the actual condition of the tissues, shows most unequivocally that the whole uveal tract and the optic nerve up to the chiasm were profoundly affected. It seems strange that Arlt's division upon iritis from cold, or rheumatic iritis, has not been more frequently illustrated clinically, or that cold, as an etiological factor, has not been accepted by other writers.

My present contention, however, goes beyond this, and relates to the whole nomenclature and the essential nature of the lesion. To designate the consensus of symptoms and lesions by the term iritis is not only imperfect, but is wholly misleading and incorrect. It would be extreme to say that all cases heretofore described as serous iritis were, properly speaking, examples of peripheral neuritis; but it is less absurd than to designate the disease I have described as simply an iritis; and it may indeed finally transpire that many cases of so-called serous iritis are in reality neither entirely localized to the uveal tract, nor, as DeWecker argues, essentially of the nature of a lymphangitis, local or general, but are really examples of a more or less general neuritis of the ocular nerves. There seems hardly a reasonable doubt that my case was such an one, and that most of the structures dependent upon the ophthalmic branch of the fifth, as well as the optic nerve itself, were peculiarly affected, and in such a way that no other cause than neuritis could explain the symptoms. The vaso-motor connections of the ophthalmic branch explain the sudden, extensive and persistent flushing of the conjunctival and subconjunctival capillaries, either by direct interference with the neural transmission, or as a reflex neurosis. Perhaps the same anatomical and physiological connections may account for the lachrymation and photophobia. The exquisite and ceaseless pain is seen to be a necessary consequence. The iritis or uveitis thus appears as a late and a secondary result, due either to extension of the inflammation from the nerves to the proper tissues or to vaso-motor disturbances. The implication of the optic nerve, papilla and, perhaps, retina, may be explained in the same way. The duration of the disease, one to two months, is what we should expect from analogy with the neuritis of other peripheral nerves.

* *Graefe, Archiv für Ophthalmologie*, 26-3-62.

† *Traité Complet d' Ophthalmologie*, Tome II, Fasc. 2, pp. 280 and 313.

Lastly, we see why pilocarpine would relieve the tension of the nerves and adjacent parts by withdrawing the serous exudate of the perineuritis, and the powerful action of antipyrine and quinine would contribute to reinstate the interrupted and normal transmission of the innervation, thus bringing about the sudden and happy relief experienced by the patient. To avoid circumlocution, I have therefore coined the term, *ophthalmo-neuritis*, as indicative at once of the organ affected and the pathology of the disease, and I hazard the query, if many cases of so-called serous iritis are not in fact due to a peripheral neuritis? The anomalous and inexplicable mysteries of that peculiar affection would thus be brought to show their causal relations and their analogies with other facts and other affections.

PART II.—POSTSCRIPT.

The preceding pages here stand as they were written two days before my patient was to return to work. I leave them thus in order the better to bring into view the difficulties of diagnosis, and the lessons derivable from them.

I had up to Aug. 19th kept my patient from returning to work because I had in daily remembrance a case of facial paralysis with ocular complications that I had treated one year previously, in which there was an almost identical history of exposure to a cold draught of air after great heat, and in which several weeks after apparent recovery there was extensive herpetic eruption over the *pes anserinus*. Reasoning upon analogy, I was awaiting herpes zoster ophthalmicus, if my diagnosis of ophthalmo-neuritis were correct. The disease, it will be remembered, had been continuous for thirty-seven days, when there was a crisis and, following pilocarpine, etc., sudden relief, with an eighteen days' convalescence. I had about concluded that there would be no herpes zoster to put the seal of certainty upon my diagnosis, when it came so suddenly and so severely that my pleasure at the proof was speedily forgotten in anxiety lest the eye was to be lost after all. In twenty-four hours, lines of herpetic vesicles, as if burned with a red-hot wire, suddenly appeared along the side of the nose opposite the inner canthus, extending toward the supra-orbital foramen and across the upper eyelid. With this there was lighted up a plastic iritis, with circumcorneal injection, cloudy aqueous, etc. There was no herpes corneæ or conjunctivæ. As there was no pain at all with all this, the patient did not come to me for some twenty hours after the eruption began appearing, and yet in this time the iris border had already formed resisting attachments to the lens-capsule. These I succeeded in breaking away. Other slight lines of herpes subsequently appeared on the lower lid and at the outer canthus. The four weeks of convalescence that followed were interrupted by a relapse in which a slight iritis appeared, and a muco-purulent conjunctivitis, with an inflammation of the skin of the lids and parts about the eye, supplied by the first branch of the fifth nerve. There was no positive eruption, though there was great congestion, the skin at one time assuming a smooth, shining appearance, and later a parched, wrinkled look. Under careful treatment this within a month at last passed away.

Herpes zoster ophthalmicus!—This was the masked enemy I had been fighting for fifty-five days! According to the existing classification and nomenclature, the affection must be called by this name. And yet what a commentary upon our pathology and symptomatology, to call a disease after a slight, unimportant, painless, widely-separated and superficial skin symptom, that appears after the real disease has been going on for fifty-five days! I have, in review of the literature of herpes zoster ophthalmicus, found one case in which the herpetic symptom did not appear for three months. That, from the analogy of one case of

herpes zoster in facial paralysis, I should have suspected the true nature of this ocular trouble; and, though temporarily leaving it in abeyance, that I should at last and definitely have returned to my diagnosis long before proof was forthcoming,—this shows how well it is to let no theories or authorities, no scientific classifications or routine nomenclatures stifle one's own perceptions of facts or analogies, or one's own reading of the symptoms of a concrete disease. Pathological facts constantly nonsuit the harnessings of the best pathological theories. In my case, also, a correct diagnosis was unexpectedly of immense practical and prognostical value; since, had the patient returned to his business when it apparently seemed safe for him to do so, it would have resulted in, to him, important financial complications when the herpes and iritis did appear.

I do not here enter upon the question as to the intimate pathology of the lesion, whether it was interstitial or parenchymatous, etc., nor as to the order in which certain peripheral branches were affected first, while others were comparatively free from the morbid process, and why some were implicated only late in the history of the malady. I do not understand exactly why the optic nerve was affected throughout, and why the uveal tract was implicated so late, and why the cornea remained undisturbed throughout. That the vaso-motor fibres, which, according to Buzzard, are the most infrequent examples of peripheral neuritis, were most severely and early attacked, seems evident. The double relapses or lighting up of iritis intercurrently with the skin lesions is worthy of notice, and as taking place during the convalescence, seem to be trophic phenomena connected in some way with the repair and healing of the diseased nerve fibres.

RÉSUMÉ.

A case of monocular disease with abrupt and severe onset, appearing in a strong, healthy adult man, the day after overheating and exposure to a cold draught of air upon the side of the face. The symptoms, from the beginning and continuing for thirty-seven days, were: a persistent and boring pain, behind and above the eye, extending thence to the crown of the head; a sleeplessness not conquerable by hypnotics; a deep injection of the conjunctival and episcleral capillaries; a cloudiness and obscuration of the papilla and central portion of the fundus oculi; a slight tendency to excess of intraocular tension;—the eye in every other respect normal, without noteworthy implication of the iris, cornea, or refractive media. In thirty-six days appearance of symptoms of serous iritis; administration of pilocarpine with antipyrine and quinine; immediate and sudden disappearance of all pain, followed by a return of the eye nearly to its normal condition, barring slight obscuration of the papilla and a subnormal acuteness of vision. In fifty-five days from the onset of the affection, sudden appearance of herpes zoster ophthalmicus, affecting the side of the nose and the eyelids, especially the upper, with an intercurrent typical plastic iritis. Convalescence, interrupted by a relapse of slight iritis, and conjunctivitis, and a dermatitis of the parts supplied by the ophthalmic branch of the fifth nerve.

According to the current nomenclature this aberrant form of disease must be classed as a case of herpes zoster ophthalmicus, but since the real disease was undoubtedly a peripheral neuritis, due to cold, of the ophthalmic branch of the fifth, and that it had lasted fifty-five days before one of its very minor and inconsiderable symptoms, a herpetic eruption of the skin, appeared, it seems proper to ask if a more fitting appellation should not be given this formidable affection. As a more expressive name, and one truer to the pathological facts, the term ophthalmo-neuritis is tentatively suggested. In a future paper I propose to review the

literature of ophthalmic herpes zoster, with the design of more plainly bringing out the typical characteristics of the disease, of rendering the diagnosis more quickly recognizable, and the therapeutics more effective. In the meantime, from my case, I offer the following

CONCLUSIONS.

1. Ophthalmo-neuritis is an inflammation of the nerves of the ophthalmic branch of the fifth, with implication of its vaso-motor and trophic fibres, and possible extension of the inflammation to the optic nerve.

2. It may be caused by exposure to a cold draught of air, and is probably similar in essential nature to the lesion resulting in facial paralysis when the seventh nerve is affected from the same cause.

4. The symptoms may be intense pain, lachrymation, photophobia, conjunctivitis; later, those of serous iritis, and, still later, those of plastic iritis and herpes zoster ophthalmicus.

4. Pilocarpine may give relief from the long-continued pain and tension of the early stages of the affection.

119 S. Seventeenth St., Phila.

MIXED ASTIGMATISM, THE RESULT OF SEVERE INFLAMMATION OF AN EYE.

To the Editor of THE POLYCLINIC:—

Permit me to add an interesting fact connected with the case of Herpes Zoster Ophthalmicus described in your last issue, and which I have discovered since sending you the report. The eye has entirely recovered and presents a normal appearance in every respect. The skin of the lids and adjacent parts is without a trace of the usual scars, due to the use, during the herpetic inflammation, of softening, antiseptic and healing ointments. There are no iritic adhesions, and the fundus is clear and normal. But I have been interested to find that during and since the convalescence there has been an increasing amblyopia, due, as I first supposed, to some intimate lesion of the retina or nerve consequent upon the severe inflammation through which the eye had passed. The right, or unaffected eye has throughout preserved its perfection of visual acuteness, and to-day registers $\frac{20}{15}$ and J. 1 at the usual distances, without glasses. During the convalescence the vision of the inflamed eye was at one time $\frac{20}{70}$ under a mydriatic. Later it was $\frac{20}{100}$, likewise with paralyzed accommodation. At this time I only made a hurried test, owing to the weakness of the eye, but found that Sph. —1.50 D. ⊃ cyl. + 1.25 D., Ax. 180°, brought the vision up to $\frac{20}{30}$. To-day, with a perfectly recovered eye, I find vision $\frac{20}{200}$ and J. 14, with difficulty. The amblyopia is now shown to be entirely due to refractive errors. I have tested the refraction both without and with paralysis of the accommodation, and find it almost identical. Sph. —1.25 D. ⊃ cyl. + 3.75 D., Ax. 180° gives V. $\frac{20}{20}$, and J. 1 at 12 inches, with ease.

The fact that the patient is perfectly certain that the eyes, before his illness, were equally good, combined with the demonstrated increase of the refractive error during convalescence, shows that, as a result of the ordeal through which the eye has passed, there has been an increase of the antero-posterior diameter of the globe, and changes in the corneal symmetry, resulting in the mixed astigmatism indicated by the combined lens before mentioned.

I am, Sir, very respectfully yours,

GEORGE M. GOULD.

119 S. 17th St., Philadelphia,
Nov. 6th, 1888.